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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/462,355	03/10/2000	PIERRE PICCALUGA	32143-156903	4991
26694	7590	11/05/2004	EXAMINER	
VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP			LAO, LUN S	
P.O. BOX 34385			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20043-9998			2643	6

DATE MAILED: 11/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/462,355	PICCALUGA, PIERRE
	Examiner Lun-See Lao	Art Unit 2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 01 March 2000.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-6 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-6 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3) Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### *Introduction*

1. Claims 1-6 of U.S. Application 09/462,355 filed on 03-10-2000 are presented for examination.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Hooley (WO 96/31086).

Consider claim 1 Hooley teaches that method for formatting a digital audio signal for controlling at least one electro-acoustic transducer (see fig.5, (6,7)) from an original digital signal of an electric sound signal modified into a digital sound signal by copying (by sampling) the original signal at a higher frequency proportional (see page 28, line 20-34) to the copies whose reproduced copies (after the sampling) have intensity values

different from the original so as to control the mechanical runaway effects (such as distortion) of electro-acoustic transducers (see page 32 line 9-19 and page 13-22).

Consider claim 2 Hooley teaches the phase inversion of the copies (page 31, line 20-37) which have intensities possibly ranging up to the total phase inversion with respect to the original signal (see page 32 line 9-19).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3,6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hooley (WO 96/31086) in view of Ledzius (US PAT. 5,323,157).

Consider claim 6, Hooley does not clearly teaches the device of the characterised by the addition of a smoothing modem for an analog function.

However, Ledzius teaches the device of the characterised by the addition of a smoothing modem for an analog function (sigma-delta digital to analog converter and see col.2 lines 7-28).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Hooley into Ledzias to provide a sigma-delta digital to analog converter with reduced noise.

Consider claim 3, there is the method claim corresponding to apparatus claim 6. See previous apparatus claim 6 rejection.

6. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hooley (WO 96/31086) in view of Kramer (US PAT. 4,991,218).

Consider claim 4, Hooley teaches that device for formatting a digital control signal applied directly to the terminals of at least one electro-acoustic transducer (see fig.5, (6,7)) from an original signal of a digital recorder or a digital sound medium (such as digital radio and television, all conventional hi-fidelity system see page 3 line 13-24 and page 11 line34) into a new digital sound audio signal whose original signals are copied and reproduced at higher frequencies created by specific samplers for each of the copied signals (see page 28 lines 20-34), characterised in that the phase and intensity valves (see page 31 line 20-37 and page 32 lines 9-19)) of the new signals are adjustable by power level controller (see fig.31, 94) and whose order of action of the samplers is cyclic and regular and is ensured by an electronic clock (88 and page 33 line 7-36), but Hooley does not teach two distinct potentiometers.

However, Kramer teaches two distinct potentiometers (see fig.7a, dynamic control and col.12 lines 46-68).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Hooley into Kramer to provide a device for digitally processing analog and /or digital audio signal in real time and for processing dynamically controlled digital audio signal memory of time-varying complex waveforms.

Consider claim 5, Hooley teaches that the frequency of the samplers is proportional to the reproduced number of copies (see page 28 lines 20-34), namely the doubled frequency (it may be by volume level setting chosen) if there are two copies and quadrupled if there are four copies of the original signal (see page 31 line 20-37).

Consider claim 6, Hooley does not clearly teaches the device of the characterised by the addition of a smoothing modem for an analog function.

However, Kramer teaches the device of the characterised by the addition of a smoothing modem for an analog function (see fig.5, 104, 105) and see col.11 lines 32-60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Hooley into Kramer to provide an output by the signal processor to a D/A converter and post-filter in a manner identical to that outlined above.

Consider claim 3, there is the method claim corresponding to apparatus claim 6. See previous apparatus claim 6 rejection.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. Hooley (US PAT 6,373,955) and Veale (US PAT. 4,064,364) are recited to show other related the method and apparatus for formatting the digital audio signal for use of the sound reproduction.

8. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (703) 305-2259 The examiner can normally be reached on Monday-Friday from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (703) 305-4708.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (703) 306-0377.

Lao,Lun-See  
Patent Examiner  
US Patent and Trademark Office  
Crystal Park 2  
(703)305-2259

*DN*  
DUC NGUYEN  
PRIMARY EXAMINER